

**US Army Corps
of Engineers**
Jacksonville District

Five-Year Review Report

62nd Street Superfund Site Tampa, Hillsborough County, Florida

Prepared for
U.S. Environmental Protection Agency, Region IV
June 2004

10115929



EPA Five-Year Review Signature Cover

Preliminary Information

| | | |
|--|----------------------|---|
| Site name Kassouf-Kimerling Superfund Site | | EPA ID FLD980727820 |
| Region 04 | State Florida | City/County Tampa / Hillsborough, County |
| LTRA* (highlight) Y N | | Construction completion date: June 1995 |
| Fund/PRP Lead PRP | | NPL status Final |
| Lead agency EPA, Region 4 | | |
| Who conducted the review (EPA Region, state, Federal agencies or contractor) US Army Corps of Engineers, Jacksonville District | | |
| Dates review conducted From 3/1/04 To 9/01/04 | | Date(s) of site visit 5/5/04 |
| Whether first or successive review Second Review | | |
| Circle: Statutory Review | | Due date 9/10/04 |
| Trigger for this review (name and date) | | |
| Recycling, reuse, redevelopment site (highlight) Y N | | |

Deficiencies:

Several deficiencies were identified See Section VII Deficiencies

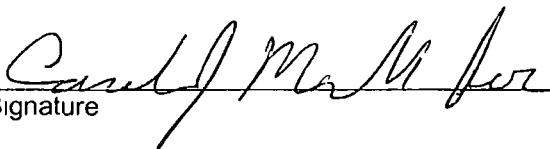
Recommendations:

Recommendations addressing the deficiencies are provided in Section VIII Recommendations

Protectiveness Statement:

The selected remedy, as executed along the eastern portion of the site, currently remains protective of human health and the environment Continued inspections and groundwater monitoring of the collection system should be conducted to ensure long-term protectiveness

Signature of EPA Regional Administrator or Division Director, and Date

 9/22/04
Signature Date

Winston A. Smith, Director
Name and Title

**62nd Street Superfund Site
Tampa, Hillsborough, Florida
Five-Year Review Report**

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List of Abbreviations

| | |
|-------|--|
| ARARs | Applicable, or Relevant and Appropriate Requirements |
| CD | Consent Decree |
| CERLA | Comprehensive Environmental Response, Compensation and Liability Act |
| EPA | Environmental Protection Agency, Region 4 |
| ESD | Explanation of Significant Differences |
| F A.C | Florida Administrative Code |
| FDEP | Florida Department of Environmental Protection |
| FS | Feasibility Study |
| HCEPC | Hillsborough County Environmental Protection Commission |
| MCLs | Maximum Contaminant Levels |
| NCP | National Contingency Plan |
| NPL | National Priorities List |
| POTW | Publicly Owned Treatment Works |
| PRPs | Potentially Responsible Parties |
| RA | Remedial Action |
| RAMP | Remedial Action Master Plan |
| RAO | Remedial Action Objective |
| RAWP | Remedial Action Work Plan |
| RCRA | Resource Conservation and Recovery Act |
| RD | Remedial Design |
| RD/RA | Remedial Design/Remedial Action |
| RI | Remedial Investigation |
| RI/FS | Remedial Investigation/Feasibility Study |
| ROD | Record of Decision |
| RPM | Remedial Project Manager |
| SARA | Superfund Amendments and Reauthorization Act |
| SDWA | Safe Drinking Water Act |
| S/S | Solidification/Stabilization |
| SCTLs | Soil Cleanup Target Levels |
| SPLP | Synthetic Precipitation Leaching Procedure |
| SSLs | Soil Screening Levels |
| TCLP | Toxicity Characteristic Leaching Procedure |
| UAO | Unilateral Administrative Order |
| USACE | United States Army Corps of Engineers |
| USGS | United States Geological Survey |

62nd Street Superfund Site Tampa, Hillsborough County, Florida Five-Year Review Report

I. Introduction and Purpose

General

The U.S. Army Corps of Engineers (USACE), Jacksonville District, on behalf of the U.S. Environmental Protection Agency (EPA), Region 4, conducted a Five-Year Review of the remedial actions implemented at the 62nd Street Superfund Site, Hillsborough County, Florida. This report documents the methods, findings, and conclusions of USACE's Five-Year Review and evaluates whether the remedial actions at the 62nd Street Site remain protective of human health and the environment

Authority

This review is required by statute. Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and Section 300.430 (f) (4) (ii) of the National Oil and Hazardous Substance Contingency Plan (NCP), which requires that periodic (no less than every five years) reviews be conducted for sites where hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure following the completion of remedial actions.

This is the second five-year review for the 62nd Street Superfund Site. The review is required because the site does not allow unlimited use and unrestricted exposure after attainment of performance standards in the Record Of Decision (ROD) and subsequent Explanation of Significant Differences (ESD). Site access is restricted to protect the integrity of the top cover system and to prevent exposure to treated soil and waste containing cadmium, chromium, lead and other heavy metals, which remain on site

II. Site Background

The 62nd Street Superfund Site was first proposed for inclusion on the National Priorities List (NPL) in December 1982. Table 1 describes significant events leading to the 62nd Street Superfund Site being added to the National Priorities List in September 1983.

A. Site Description

Location

The 62nd Street Superfund Site is located within Section 10 of Township 29 South, Range 19 East, in Hillsborough County, Florida. The site is located south of Interstate 4 and north of Columbus Drive, on the east side of the City of Tampa. More specifically, the site is located immediately west of 62nd Street and 400 to 500 feet north of Columbus Drive.

The approximate boundary of the 62nd Street Superfund Site is superimposed on a reproduction of the United States Geological Survey (USGS) quadrangle map of Tampa, Florida in Figure 1. The USGS map was originally published in 1956 and was photo revised in 1981. The site location plan shown in Figure 1 has a scale of 1 inch = 2000 feet.

The site is located in the East Lake/Orient Park neighborhood, which has a population of approximately 5,500 people.

Site Layout/ Topography

The 62nd Street Superfund Site occupies approximately 5.24 acres (292 feet by 792 feet). The areas of former waste disposal include approximately 4.5 acres. Prior to remediation, the elevation of the site ranged from +30 to +39 feet (NGVD). The site is currently graded to a maximum elevation of approximately +51 feet (NGVD) with average side slopes of approximately 4.5H:1V. The site is currently grassed and fenced.

A March 1998 aerial photograph of the site is provided as Figure 2.

Site Geology and Hydrogeology

The geologic setting of the 62nd Street Superfund Site is described in detail in the Remedial Investigation (RI) report (Hart & Associates, 1987). A geologic cross-section, which is representative of local and on-site geology, is presented in the Remedial Investigation (RI). There are three hydrogeologic systems (aquifers) underlying the site. In descending order, these aquifers are the Surficial, Intermediate, and the Floridan Aquifers. The characteristics of the aquifer systems, as reported in the ROD (EPA, 1990), and the Remedial Design Work Plan (RDWP) report (Ardaman & Associates, 1991) are summarized below:

Surficial Aquifer System:

- composition: fine to medium sand, silt, and clay.;
- thickness: approximately 25 to 30 feet and exhibits increased clay content

with depth.

- hydraulic properties: transmissivity = 869 gpd/ft; hydraulic conductivity = 15.12 ft/day; average hydraulic gradient = 0.010 foot/foot (ft/ft).

Intermediate Aquifer System (Hawthorn Formation).

composition: a formation of interbedded sands, silts, clays, and limestones;

thickness: 90 to 150 feet;

hydraulic properties: vertical permeability of the clay unit range from 1.9×10^{-6} cm/sec to 1×10^{-10} cm/sec;

Floridan Aquifer:

composition: limestone,

thickness: over 1,000 feet;

hydraulic properties: high permeability, primary source of potable water in many municipal areas.

B. Site Chronology

History of Operations

In the late 1960's, the 62nd Street Superfund Site was operated as a borrow pit where sand was removed for use as fill material. When the borrow operations ceased, the owner of the site allowed several companies in the Tampa area to use the excavated pits for disposal of various waste materials including but not limited to, construction and demolition debris, cement kiln dust, battery wastes, and waste materials from an automobile shredder. The owner ceased the dumping operation in 1976 however, unauthorized disposal of household garbage and construction debris continued after that date. A former fish farm with a series of small shallow ponds, which is not currently operated, is located west of the site. An 80-acre marshland that drains into a nearby lake is located adjacent to the fish farm. Adjacent land use to the east includes residences and a landscape nursery. Adjacent land use to the south includes residences, light commercial and industrial operations and an automobile junkyard. The land north of the site is currently vacant and undeveloped.

The site is currently vacant and access is restricted by fencing and locked gates. The site is posted as a hazardous waste disposal site.

Although some residents in the vicinity of the site obtain their potable water from Floridan aquifer wells, the Floridan aquifer below the 62nd Street Superfund Site was not impacted by the waste disposal activities and therefore, EPA did not mandate

remediation of the Floridan aquifer. No known potable water wells are completed in the unconfined surficial aquifer near the site

Contaminants

Contamination of soil and groundwater at the 62nd Street Superfund Site was a result of past disposal practices through which waste was dumped into open pits where sand had been excavated for sale as construction material.

Wastes buried at the 62nd Street Superfund Site could be grouped into two general categories: cement waste and non-cement waste. Cement waste referred to materials consisting of off-spec cement, cement kiln dust and cement slag. Non-cement waste consisted of waste materials from an automobile shredder, battery wastes, and other wastes. Solidification/stabilization (S/S) of non-cement waste was mandated by the ROD; however, S/S of the cement waste was not required because the material presented little threat through direct contact or leaching to groundwater.

Previous soil and groundwater investigations at the 62nd Street Superfund Site revealed the presence of hazardous substances in the non-cement waste that posed a potential threat to public health. EPA designated the following possible routes for these substances to enter the human body:

- direct contact with soils
- ingestion of groundwater
- inhalation of airborne particulates

The non-cement waste at the 62nd Street Superfund Site, which was reported in the ROD to have a volume of approximately 48,000 cubic yards, was considered to be a potential risk to human health due to the presence of the following "contaminants of concern" identified in the ROD: antimony, arsenic, cadmium, chromium, copper, lead and polychlorinated biphenyls (PCBs). Extraction Procedure (EP) toxicity tests performed on three waste samples recovered from the site during the RI indicated that one of the three samples was EP toxic for lead (See Fred C. Hart & Associates' report titled "Final Remedial Investigation Report, 62nd Street Superfund Site, Tampa, Florida", revised Sept 10, 1987).

During the Remedial Investigation/Feasibility Study (RI/FS) programs, unfiltered groundwater samples from the surficial aquifer at and downgradient of the site were found to contain cadmium, chromium, and lead levels exceeding the Maximum Contaminant Levels (MCLs) of the Safe Drinking Water Act (SDWA). Chromium was the most common contaminant that exceeded the MCLs; the second most common contaminant was lead. However, as discussed in detail in Volume II of the Remedial Design (RD) Report, groundwater sampling and analyses by both the RD

Supervising Contractor and EPA during the RD program indicated that the concentrations of chromium, lead, and cadmium in the off-site wells were actually below the groundwater cleanup levels established in the ROD. EPA determined that none of the contaminants of concern were above the MCLs in any of the onsite or offsite artesian Floridan aquifer wells.

Sediment and surface water samples recovered from surrounding offsite areas indicated no contamination and no threat to human health or the environment.

III. Results of Site Investigations

As a result of complaints of fish kills occurring in the fish breeding ponds located west of the 62nd Street Superfund Site, Hillsborough County Environmental Protection Commission (HCEPC) issued a notice to cease all disposal activities at the site. No cleanup activities were conducted at the site prior to the ROD and the implementation of the Remedial Design.

Pre-NPL Listing (1983)

The results of site investigations conducted prior to NPL listing in September 1983 are summarized in the Record of Decision (ROD), signed on June 27, 1990. In general, these early investigations resulted in the following.

- identification of "contaminants of concern" in three soil samples
- identification of the presence of elevated levels of antimony, arsenic, cadmium, chromium, copper, lead, and polychlorinated biphenyls
- Identification of lead by EP toxicity test
- Identification of the presence of cadmium, chromium, and lead in unfiltered groundwater samples from the surficial aquifer with only chromium and lead exceeding MCLs.

Information gathered during these early investigations resulted in NPL listing of the site in September 1983.

NPL Listing (1983) to ROD Signing (1990)

In 1984, EPA granted FDEP, formerly FDER, a CA grant to perform the Remedial Investigation/ Feasibility Study (RI/FS). FDEP hired as its consultant Fred C. Hart Associates, Inc.

In 1986/87, Final Remedial Investigation Report was submitted by Fred C. Hart Associates, Inc.

In 1987, additional sampling of on-site groundwater monitoring wells was performed.

In 1988, a Feasibility Study was conducted for the site.

In 1989, additional sampling of nearby domestic residential wells was performed by the Florida Department of Health and Rehabilitative Services (HRS)

In 1990, RI/FS information was released to general public. Public meetings were held followed by the preparation of a Responsiveness Summary.

This concludes the summary of investigations conducted prior to signing of the ROD on June 27, 1990.

POST-ROD CERCLA ACTIVITIES

In 1991, EPA issues a Unilateral Administrative Order (UAO) to directing the PRPs to develop the Remedial Design (RD) for the remedies selected in the ROD, and to implement the RD by performing a Remedial Action (RA).

In 1991, In a Consent Decree (CD) approved in August, PRPs agree to develop the RD and implement the RA for the 62nd Street Site.

In 1993, Ardaman & Associates submits the Remedial Design Work Plan to EPA .

In September 1993, the Remedial Action program began. Construction of the soil-bentonite cut-off wall (2,100 feet) was put in place on site

In 1993/94, the excavation and treatment of non-cement waste and contaminated soils was performed. Also, the treatment and disposal of on-site groundwater was performed.

In May 1994, Pre-final Inspection by EPA RPM

In July 1994, the excavation and treatment of non-cement waste and contaminated soils was completed.

In Dec 1994, Ardaman & Associates submitted the Off-Site Groundwater Monitoring Program to EPA

In Feb/May 1995, construction of top cover began. A total of 4.5 acres was capped with a synthetic material.

In May 1995, Ardaman & Associates submitted the Operation & Maintenance Plan

and Performance Monitoring Plan to EPA.

In June 1995, Final Inspection by EPA Remedial Project Manager.

On June 29, 1995 the ROD was amended and the requirement to treat off-site groundwater was deleted

In Sept 1995, EPA approved the O&M and Performance Monitoring Plans for the site.

The chronology of significant environmental investigation, design and remediation activities for the above events can be seen in Table 2

IV. Summary of Response Actions

A. Remedial Objectives and Goals

The general remedial action objective for the Superfund Site is to provide protection of human health and the environment, while complying with federal and state requirements or Applicable or Relevant and Appropriate Requirements (ARARs) (ROD, EPA 1990)

The purpose of the Remedial Action Objectives (RAO) is to reduce the risks associated with exposure to contaminated onsite soils and groundwater in the surficial aquifer on site and off site.

- To excavate and treat non-cement waste and contaminated soils to minimize their potential to leach contaminants to groundwater;
- To minimize rainfall infiltration through the wastes and leachate generation;
- To preclude exposure to the treated waste and soils; and
- To recover and treat onsite and offsite groundwater in the surficial aquifer to meet water quality standards

The criteria for contaminated soils are presented in Table 3. Criteria for soils requiring cleanup were based on consideration of health effects and leaching to groundwater. The original lead cleanup criterion for contaminated soils at the site, as stipulated in the ROD, was 17 mg/kg for soils beneath and adjacent to the non-cement waste and 170 mg/kg for soils beneath and adjacent to the cement waste.

B. Post-ROD Objectives and Cleanup Goals

However, as discussed in an ESD issued by the EPA on September 20, 1991, further analyses of site-specific data necessitated a revision of the soil cleanup criterion for lead to 224 mg/kg for soils adjacent to and underlying the non-cement waste as well as for soils adjacent to the cement waste. In addition to the criterion for lead, the ESD also required cadmium and chromium in the soils to be below the Toxicity Characteristic Leaching Procedure (TCLP) regulatory threshold limits of 1.0 mg/l for cadmium and 5.0 mg/l for chromium

The ROD established cleanup criteria for contaminated groundwater are presented in Table 3. The criteria for cadmium and chromium were based on the MCLs from Primary Drinking Water Standards. The criterion for lead was based on the EPA recommended cleanup level for lead in groundwater.

C. Remedy Selection

General

EPA has nine criteria for judging the best alternative for providing for protection of human health and the environment. These nine criteria consist of five primary criteria, two threshold criteria, and two post-RI/FS criteria.

Primary Criteria;

- Short – Term Effectiveness,
- Long -Term Effectiveness,
- Implementability,
- Reduction of Toxicity, Mobility, or Volume;
- Cost,

Threshold Criteria,

- Compliance with ARARs;
- Overall Protection of Human Health and the Environment,

Post-RI/FS Criteria;

- State Acceptance;
- Community Acceptance,

Selected Remedy

Based upon consideration of the CERCLA requirements, as amended by SARA, and the National Contingency Plan (NCP), detailed analyses of feasible alternatives, and comments by the public, the EPA selected a remedy for the site, which is

presented in the ROD promulgated on June 27, 1990. [EPA/ROD/r04-90/070] The selected remedy consisted of the following directives:

- Excavation of non-cement waste and contaminated soils
- Screening of the excavated materials for large objects such as automobile tires, metal wires, discarded household items and concrete blocks. Decontamination of these oversized objects (if necessary) and disposal off-site or by recycling, as appropriate.
- Solidification/stabilization of non-cement waste and contaminated soils with suitable fixing agent(s) to reduce the toxicity and /or mobility of the contaminants of concern.
- Extraction and treatment of contaminated groundwater from the surficial aquifer.
- Capping the site with a top cover system.
- Institutional controls including land use restrictions to ensure the integrity of the top cover system and preclude exposure to treated waste and soils.

Under the selected remedy, the onsite contaminated soils and non-cement waste would be excavated and treated by the S/S technique, and the solidified materials would be placed back into the excavation. The ROD mandated no treatment of the cement waste. The ROD further required that both onsite and offsite groundwater from the surficial aquifer that exceeded the cleanup standards for chromium, lead, and cadmium be recovered and treated. The selected remedy also called for the installation of a top cover system, which consisted of a soil liner component, a geomembrane liner component, a drainage sand cover, and a grass cover.

D. Remedy Implementation

Remedial Design

Based on the directives in the ROD, a design was developed for site remediation by the RD Supervising Contractor (Ardaman & Associates, Inc.) retained by the PRPs. The basis for development of the design as well as the criteria for its implementation was presented in a RD Report. A set of RD Drawings that illustrated the remediation concept and scheme was also prepared as part of the RD tasks.

Major RD activities completed for the site included installation of six groundwater monitor wells at the perimeter of the site, sampling and analyses of existing and new monitor wells, performance of a groundwater treatability study, excavation of five

test pits within the site boundary, performance of a soil/waste treatability study, performance of eleven soil borings and design of a soil-bentonite cut-off wall at the perimeter of the site, treatment design for onsite groundwater, non-cement waste and contaminated soil, design of a top cover, and design of a recovery system for off-site groundwater. The RD included technical objectives to determine whether the RA program achieved the RAOs.

The RD for the 62nd Street Superfund Site was developed in four stages (30% completion, 60 % completion, 90% or pre-final completion and final completion). Inputs and review comments provided by the EPA and the Oversight Contractor at each design stage, where applicable, were incorporated into the final RD Report and Drawings, which were submitted to the EPA and FDEP on February 11, 1993 and subsequently approved by the EPA on February 25, 1993.

The RD incorporated all design elements that were required by the directives of the ROD plus a soil-bentonite cut-off wall around the perimeter of the site. The purpose of the proposed cut-off wall was to facilitate the dewatering operation during site remediation and to reduce long-term migration of groundwater through the solidified materials and cement waste beneath the site after site remediation. Although groundwater sampling and analyses by both the RD Supervising Contractor and EPA during the RD program indicated that the concentrations of chromium, lead and cadmium in the offsite wells were below the groundwater cleanup levels established in the ROD and that a recovery and treatment system for offsite groundwater might not be necessary, it was agreed that the RD would proceed as if off-site groundwater contamination existed; however, implementation of the system would be deferred pending the results of a quarterly groundwater monitoring program to collect additional data from selected offsite surficial aquifer monitoring wells.

Remedial Action

The Remedial Action (RA) Report describes various remediation activities completed at the site and presents the testing data obtained throughout the RA program. The remediation activities were conducted in accordance with the technical objectives and criteria presented in the Remedial Design Report prepared by Ardaman & Associates, Inc. Revision No. 0, dated February 11, 1993, and implementation procedures outlined in the Remedial Action Work Plan (RAWP), revision No. 1, dated June 9, 1993.

Of the numerous Potentially Responsible Parties (PRPs) identified for the 62nd Street Superfund Site, only The David J. Joseph Company and Lafarge Corporation actively participated in the remediation of the site throughout the Remedial Design/Remedial Action (RD/RA) programs. The jurisdictional regulatory agencies consisted of the United States Environmental Protection Agency – Region 4 (EPA) and the Florida Department of Environmental Protection (FDEP). The Oversight

Contractor representing EPA was CDM Federal Programs Corporation. The RD/RA Supervising Contractor for this project was Ardaman & Associates, Inc. The RD/RA Contract Laboratory for analytical testing was Thornton Laboratories, Inc. Various Specialty Contractors also participated in performance of various tasks associated with the RA program.

The configuration of the completed remedial action improvements on the site is shown in Figure 3

E. Operation and Maintenance

Maintenance and monitoring activities began at the site upon acceptance of the Remedial Action Report, Operation & Maintenance Plan and Performance Monitoring Plan by the EPA in September 1995. Routine monitoring and maintenance activities performed for the site consists of sampling and analyses of groundwater samples from existing nearby monitoring wells screened within the surficial aquifer and the Floridan aquifer. The locations of the monitoring wells that are to be sampled annually are shown in Figure 4

F. Operation and Maintenance Activities

Maintenance activities and monitoring data for the 62nd Street Superfund Site in 1995, 1996, 1997 and 1998 were documented in annual reports submitted to the EPA on January 30, 1996, January 30 1997, March 5, 1998, and February 25, 1999, respectively

The first Five-Year Review Report of 62nd Street Superfund Site was submitted March 30, 1999.

Maintenance activities and monitoring data for the 62nd Street Superfund Site in 2000, 2001, 2002, and 2003 were documented in annual reports submitted to the EPA on January 20, 2000, January 24, 2001, January 15, 2002, February 6, 2003, and January 27, 2004, respectively.

Scheduled site inspections occur in March, June, July, August, September, October, and December of each year. Unscheduled site inspections following major storm events, extended periods of rainfall, hurricane, or other unforeseen incidents. Sampling and analyses of groundwater in December each year

As part of this Five-year Review, the Groundwater Sampling Reports (January 2000, January 2001, January 2002, February 2003, and January 2004) were reviewed.

These reports contain a brief description of the groundwater findings based upon the analytical data from a sampling event. These findings are listed as follows;

- Eight surficial aquifer groundwater wells and three Floridan aquifer monitor wells were sampled.
- The concentrations of chromium, cadmium and lead in these groundwater wells remain well below the cleanup standards as stated in the ROD.
- See Tables 4 - 8 for results of sampling for the years 1999, 2000, 2001, 2002, and 2003, respectively.

The following reports are to be submitted to EPA Region IV and FDEP.

- annual monitoring reports with comparison to success criteria;
- 5 year review reports

V. Summary of Site Visit and Findings

A. General

This Five-Year Review summary consists of the following activities; (1) interviews and file review with the EPA Project Manager, Florida Rock Industries, Inc Environmental Manager, Ardaman & Associates, Inc. Project Manager, (2) site inspection, (3) review of all relevant documents (see Attachment A, Documents Reviewed), (4) preparation of the Five-Year Review report

B. Interviews

Mr. Joseph Alfano, EPA Region IV Remedial Project Manager (RPM)

Mr. Alfano was interviewed and after the site documentation was gathered from the EPA Region IV file room in Atlanta, GA. In addition to facilitating the gathering of documentation, Mr. Alfano provided information on site history, remedial actions, and current site status.

Ms. Donna M. Kibler, Florida Rock Industries, Inc., Environmental Manager

Ms. Kibler was interviewed by phone on May 3, 2004 prior to the site inspection was completed on May 7th. Ms. Kibler has had extensive involvement with the site since the Florida Rock Industries, Inc. acquired ownership of the 62nd Street Superfund Site. She currently manages the site as an employee of Florida Rock Industries, Inc. Valuable information on site history, remedial actions, and current site status

was obtained during the phone interview and site visit, much of which is included in Revised Supplemental Feasibility Report (TRC 1999). She was not aware of any complaints or issues at the community level. She stated that the responsiveness and professionalism of all previous EPA Region IV RPMs has been excellent and looks forward to working with the current EPA Region IV RPM, Mr Alfano

Mr. Francis K Cheung, P.E., Ardaman & Associates, Inc., Senior Project Manager.

Mr Cheung was interviewed by phone on April 26, 2004 and during the 62nd Street Superfund Site inspection on May 7, 2004. Mr. Cheung provided site access and escorted Ms. Kibler and the USACE site inspection team throughout the site inspection. Mr. Cheung feels the soil-bentonite cut off wall system and the top cover cap system are providing hydraulic control and functioning as designed. Mr Cheung has been involved with this project many years and with managing the operations and maintenance of this site

C. Site Inspection

General

The Five-Year Review site inspection of the 62nd Street Superfund Site was held on May 7, 2000. The weather was hot and sunny (upper 80's) and mostly clear.

The following individuals were in attendance during the inspection of the 62nd Street Superfund site:

Olice Carter, USACE, Jacksonville District, Lead Project Engineer
Donna Kibler, Florida Rock Industries, Inc , Environmental Manager
Francis Cheung, Ardaman & Associates, Inc., Senior Project Manager
Joseph DeCicco, Ardaman & Associates, Inc. Staff Geologist

62nd Street Superfund Site Visit

Mr. Cheung and Mr. DeCicco provided site access during the 62nd Street Superfund Site inspection. The site visit consisted of a walk through of the entire site and taking of photographs documenting existing conditions. The site was also observed from 62nd Street and offsite adjacent areas were observed from the site. A site checklist form, noting the condition of the site and the remedial action, was completed. Notes of the site visit, the site checklist and selected photographs showing current site conditions are presented at the end of this document

The top cover at the site, which consists of a soil liner component, a geomembrane liner component, a drainage sand cover, and a grass cover, was visually inspected

and appeared to be in good condition with no significant erosion or disturbance. The grass cover was well established. Photographs showing current site conditions are presented at the end of this document.

Site Security

A eight-foot chain link perimeter security fence with a barbed-wire crown was observed bordering the site and appeared to be in good condition. There was an access gate for entrance to the property located at the eastern side (62nd Street) of the property. As the inspection team approached the site by vehicle, the access gate was observed to be locked and not open to the public. There is an additional gate on the southern part of the property that was unlocked at the time. As documented in the inspection reports and also in the first 5-year review report, the security of the site continues to be a problem. Evidence of access to the property was discovered and from interviews with some of the residences reveal that there are at times All Terrain Vehicles seen riding on the property.

Monitoring Wells

The current post-remedial monitoring program for the 62nd Street Superfund Site includes sampling the following wells: MW-10D, MW-12 S& D, MW-13 S&D, and MW-22 through MW-26 were located. MW -10D has a protective casing above grade, MW-22 through MW-26 are flush mounted with bolted covers over hand holes. MW-10S, MW-7S and MW-7D were also observed above grade on the site. All wells are sampled annually in accordance with the Performance Monitoring Plan. Groundwater sampling is performed by field technicians from Ardaman & Associates, Inc., and the analytical testing performed by Thornton Laboratories, Inc of Tampa, FL.

Interviews with residents

Mr. Robert Steele is the owner of the Oakwood Wholesale Nursery located across 62nd street from the site between Diamond Street and Eugene Avenue. Mr. Steele has worked at the nursery for 13 years. He felt the site should be mowed more frequently. In the past he has noticed some people on dirt bikes and ATVs riding on the site. He has not noticed any effects on his nursery and has no other problems with the site. Recommends County/City remove the household garbage and other debris from the 62nd Street side along the 62nd Superfund Site fence more frequently.

D. Review of Applicable or Relevant and Appropriate Requirements (ARARs)

Table 3, "Chemical-Specific ARARs," presents changes in ARARs from the ROD to

the date of the five-year review

Groundwater Cleanup levels in the ROD were based on Primary Drinking Water Standards and MCLs in effect at the time of the ROD (1990). The National Drinking Water Standards for cadmium and chromium were revised subsequent to the issuance of the ROD. The MCL for cadmium was lowered from 10 to 5 micro gms/l while the MCL for chromium was raised from 50 to 100 micro gms/l. The MCL for lead remained at 15 micro gms/l. The Florida Groundwater Standards (62-520.420, F.A.C.) reference the State Drinking Water Standards (62-55-.310, F.A.C.), which are the same as the National Drinking Water Standards. Results of the four annual monitoring events show that the groundwater concentrations in the monitoring wells do not exceed the revised standard.

The findings of Ardaman & Associates, Inc. 12/16/94 report, Off-Site Groundwater Monitoring Program, 62nd Street Superfund Site, Tampa, Florida, would not have change based on the new standards. This report supported the decision not to require treatment of offsite groundwater. Soil contamination standards were specified in the ROD and were subsequently modified by EPA, as shown in Table 3. Soil contamination levels for treatment implemented in the RA program were 20 mg/kg for cadmium, 100 mg/kg for chromium, and 224 mg/kg for lead.

EPA has developed soil screening guidance (Soil Screening Guidance: Technical Background Document, May 1996) and the FDEP has developed soil cleanup target levels (SCTLs) for brownfield sites (62-785, F.A.C.). The soil screening levels (SSLs) from EPA are guidance levels for preliminary site screening, and not regulatory standards. Sites passing the generic SSLs for the appropriate pathways would typically require no further study under CERCLA. Soil containing contaminants above these screening levels are evaluated to determine appropriate cleanup levels. While SSLs are based on conservative assumptions appropriate of a screening level, cleanup levels consider actual site conditions and generally allow for higher contaminant concentrations. The Florida Brownfields Rule in 62-785, F.A.C., expressly provided that it is not applicable to CERCLA sites such as the 62nd Street Superfund Site. However, this rule would be "relevant and appropriate" to consider for soils requiring cleanup.

The pathway for this site with the most stringent requirements is leaching and migration to groundwater. The levels for both the EPA Soil Screening Guidance and the Florida Brownfields Rule are 8 mg/kg for cadmium, 38 mg/kg for chromium, and 400 mg/kg for lead.

Based on a review of the verification data for excavation of non-cement waste and contaminated soils (Table 5-1 of the 07/13/95 Remedial Action Report), the cadmium concentrations were all below the SSLs and SCTLs set forth in the newer guidance documents and regulations. Although the chromium concentrations were greater than the new screening level of 38 mg/kg in some cases, this is simply a

screening level, not an actual cleanup standard. The soils at the 62nd Street Superfund Site have already been treated to prevent leaching into the groundwater. Moreover, the soil-bentonite cut-off wall, the top cover and the low hydraulic conductivity of the stabilized waste and soil provide adequate additional protection against leaching and migration to groundwater. The latest EPA soil lead screening level is 400 mg/kg and this is higher than the level of 224 mg/kg implemented during the RA program.

The TCLP standards for cadmium, chromium, and lead have not been modified since the issuance of the ROD (1990). Thus, the waste and contaminated soils which met these criteria during the RA program would also meet the current standards.

The treatment of groundwater and discharge to the City of Tampa POTW has already been completed. The effluent from the site met all City of Tampa requirements. Analytical results of groundwater discharged to the City were not reviewed against the current standards.

There are no site-specific risk-based remedial action objectives. No risk recalculations or risk assessments were performed as part of the five-year review.

To preclude exposure to the treated wastes and soils, the RAO is still relevant because the S/S wastes and soils remain on the site. This RAO is achieved through the use of a composite liner (i.e., soil and geomembrane liner), protective soil layer and grass cover, which remain in good condition with no significant erosion or disturbance. This RAO is further achieved by controlling site access and land use.

VI. Assessment

Data Review

The annual groundwater monitoring data for 1999 through 2003 were reviewed. These are the only post-remediation data required by EPA and, thus, available to document the effectiveness of the remedy. Laboratory testing for cadmium, chromium, and lead concentrations is performed for samples from ten monitoring wells on and off site (see Figure 4 for locations). In most cases, both the unfiltered and field-filtered samples were collected to analyze total and dissolved metals concentrations respectively.

The analytical data and the field parameters are shown in Tables 4, 5, 6, 7, and 8. Quality control samples were included in the monitoring program but the results from field blanks, equipment blanks, and duplicate blanks have not been included in the table.

The results from four years of sampling show that the groundwater quality standards

for cadmium, chromium, and lead have consistently been met by a comfortable margin for both filtered and unfiltered samples at all location tested. Due to the fact that many of the results were below the detection limits of the methods used, no meaningful analysis of trends could be performed.

VII. Conclusions

The following is a summary based on the findings of the second five-year review for the 62nd Street Superfund Site:

Appropriateness of Remedial Action Objectives

The review of the RAOs and ARARs demonstrated that the RAOs are still appropriate for protecting human health and the environment. Although there have been changes in regulatory requirements and guidelines since the ROD (1990) and the RA (1993), none of these changes would call into question the effectiveness of the completed remedial action. The RAO relative to groundwater quality should be changed to reference the current MCLs for cadmium and chromium and the current action level for lead.

Achievement of Remedial Action Objectives

The remedial action has been completed and all RAOs have been achieved.

Whether the Remedy is Effective and Functioning as Designed

The remedy is effective and functioning as designed. Groundwater monitoring data indicate that groundwater quality meets the criteria for cadmium, chromium, and lead, which are the contaminants of concern listed in the ROD and the RD. The site visit supports the conclusion that the remedial action improvements are intact and functioning. The interviews show that interested parties including the residential neighbors have raised no significant issues.

Breaches in security provided by the fencing and posting of the site were noted. These have not progressed to a level that would impact the effectiveness of the remedy.

Adequacy of O & M

The O&M requirements are adequate for the site, and are, in general, being adequately implemented. The site visit and interviews suggest that site access should be monitored more closely and the condition of vegetation on the site needs to be observed to determine when to mow. Since there has been no exceedance of

applicable groundwater standards, there is no justification to increase the monitoring frequency.

Early Indicators of Potentially Remedy Failure

No early indicators of problems that could lead to remedy failure were observed or called to our attention, with the possible exception of site security. Site security is addressed in recommendations.

VIII. Deficiencies

The following deficiencies were discovered during the Five-Year Review. These deficiencies are judged to be minor, and do not pose a threat to human health or the environment

Balls, trash, and people on bikes and ATV's have been observed on the site. This would indicate that security fencing, gates and signs are not preventing access to the site by unauthorized persons. Access seems to be through the south gate of the property which was open during our site visit. At this time, the activities by intruders did not appear to have affected the integrity of the top cover system or the soil-bentonite cut-off wall

Although the identified deficiency noted does not currently prevent the remedy from being protective, EPA should determine additional property security measures and enforce access restriction to the site.

IX. Recommendations

The following recommendations are made to address the deficiencies noted above:

- A. Monitor the site more frequently for intruders and evidence of unauthorized access.
- B. Contact adjoining property owners to the south and advise that access is prohibited, and that the south entrance gate should remain closed and locked
- C. Enforce site access and land use restrictions when necessary.
- D. Mow and trim vegetation along fence lines.

X. Protectiveness Statement

The remedy remains protective of human health and the environment. The top cover system, soil bentonite cut-off wall, and the low hydraulic conductivity of the stabilized waste and soil provide adequate protection against leaching and migration to groundwater

XI. Next Review

This is a policy review site that requires ongoing five-year reviews as long as hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure EPA -Region 4 should conduct the next review within five years of the original due date of this report. The next five year review is due June 18, 2009

Figures

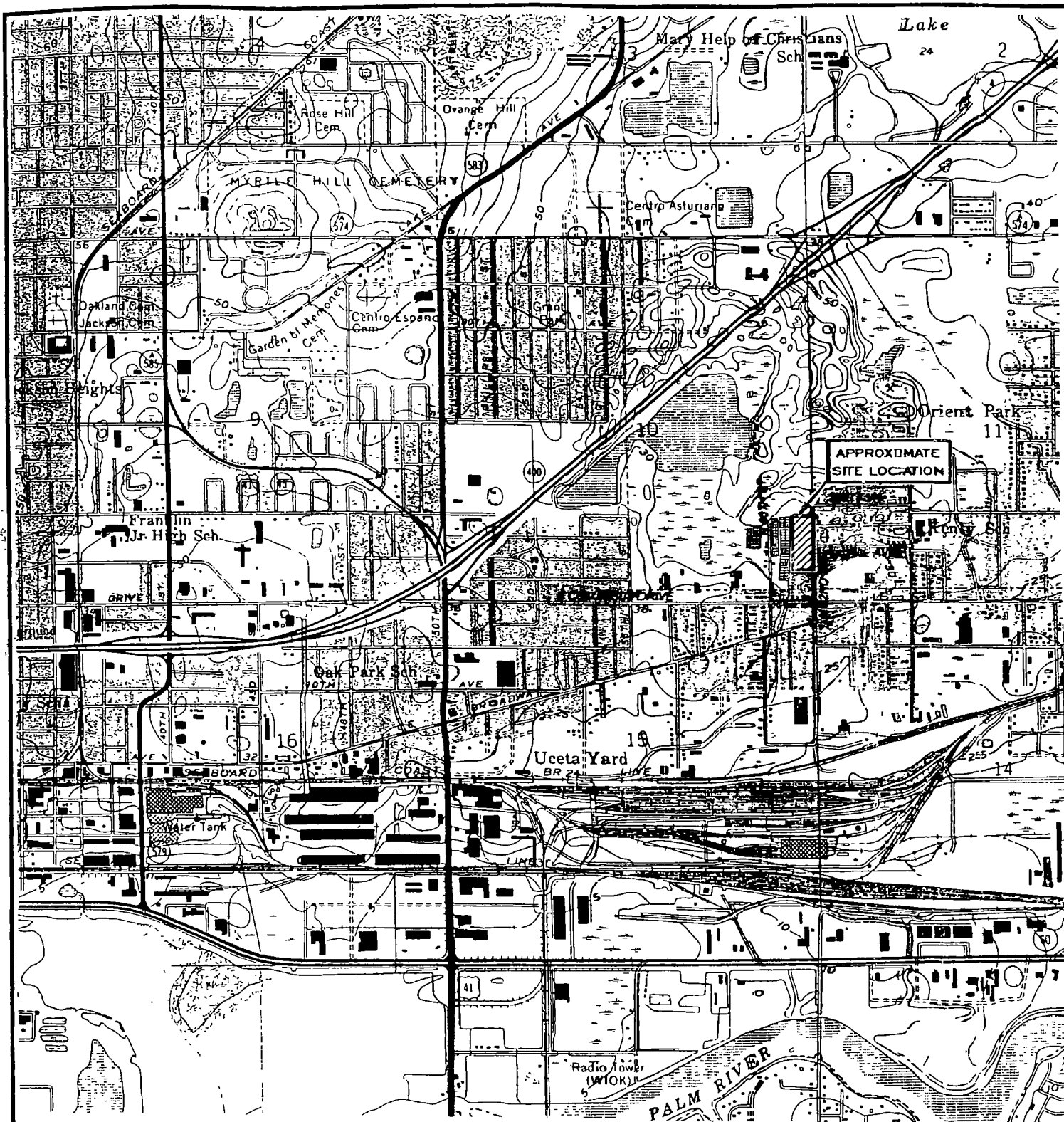
Note. These figures were taken from the following documents:

Figure 1 - Site Location Map: Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc., March 30, 1999

Figure 2 – Aerial Photograph of the Site (1998): Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc , March 30, 1999

Figure 3 – Site Plan Showing Completed Remedial Action: Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc , March 30, 1999

Figure 4 – Monitoring Well Locations: Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc., March 30, 1999

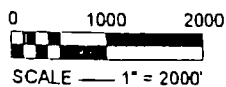


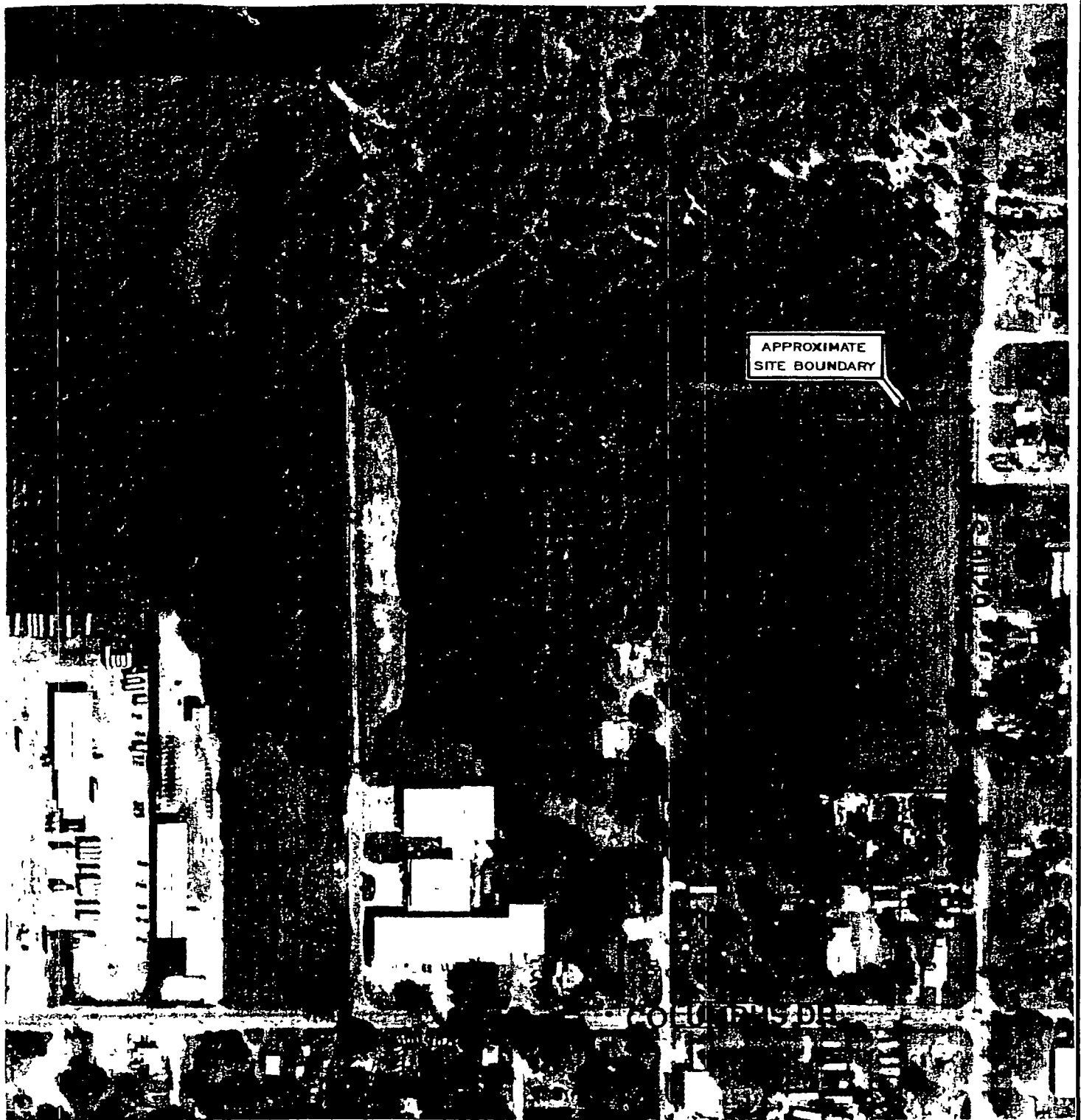
SECTION 10
TOWNSHIP 29 SOUTH
RANGE 19 EAST

BASE MAP USGS 7.5-MINUTE TOPOGRAPHIC
QUADRANGLE MAP, TAMPA, FLORIDA 1956,
PHOTOREVISED 1981

SITE LOCATION MAP

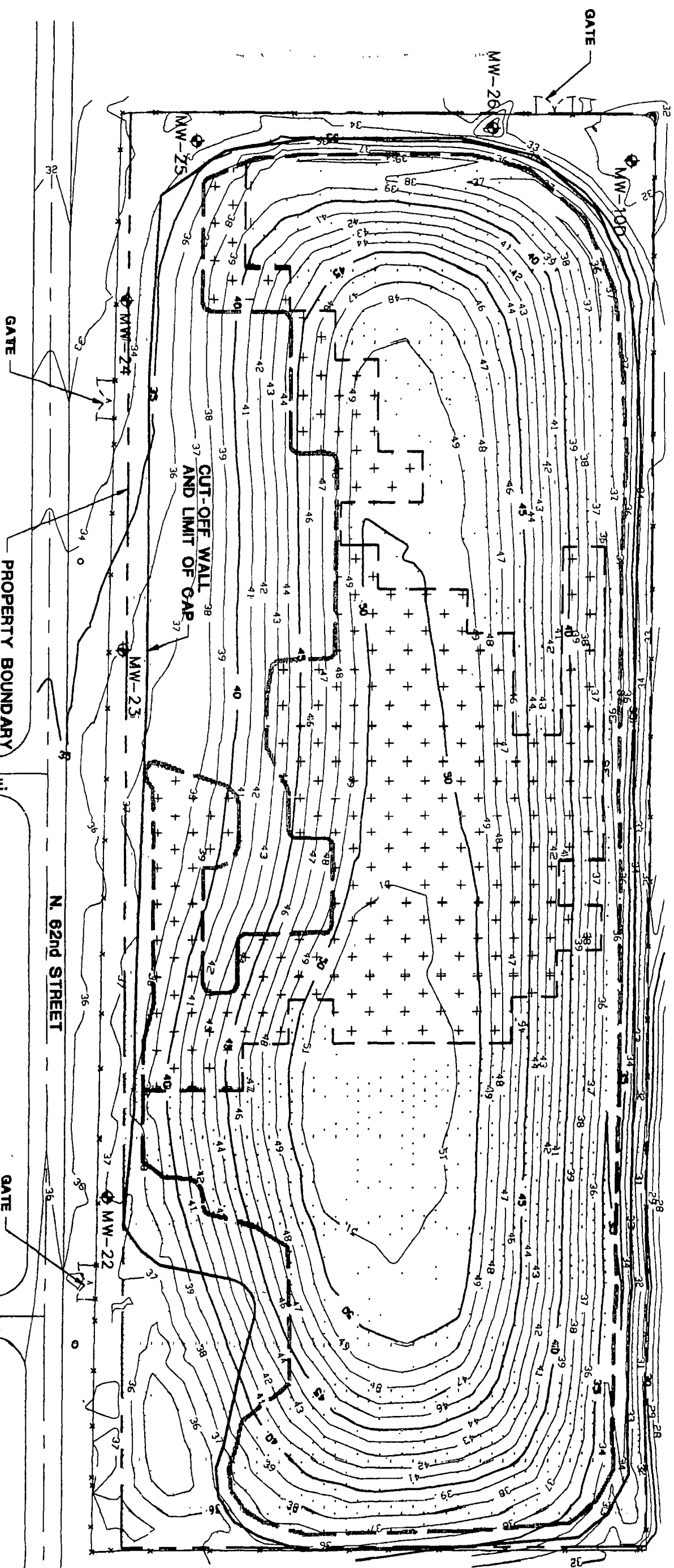
Figure 1





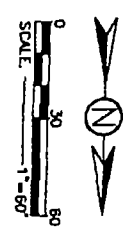
MARCH 1998
AERIAL PHOTOGRAPH
OF THE SUBJECT SITE

Figure 2



LEGEND

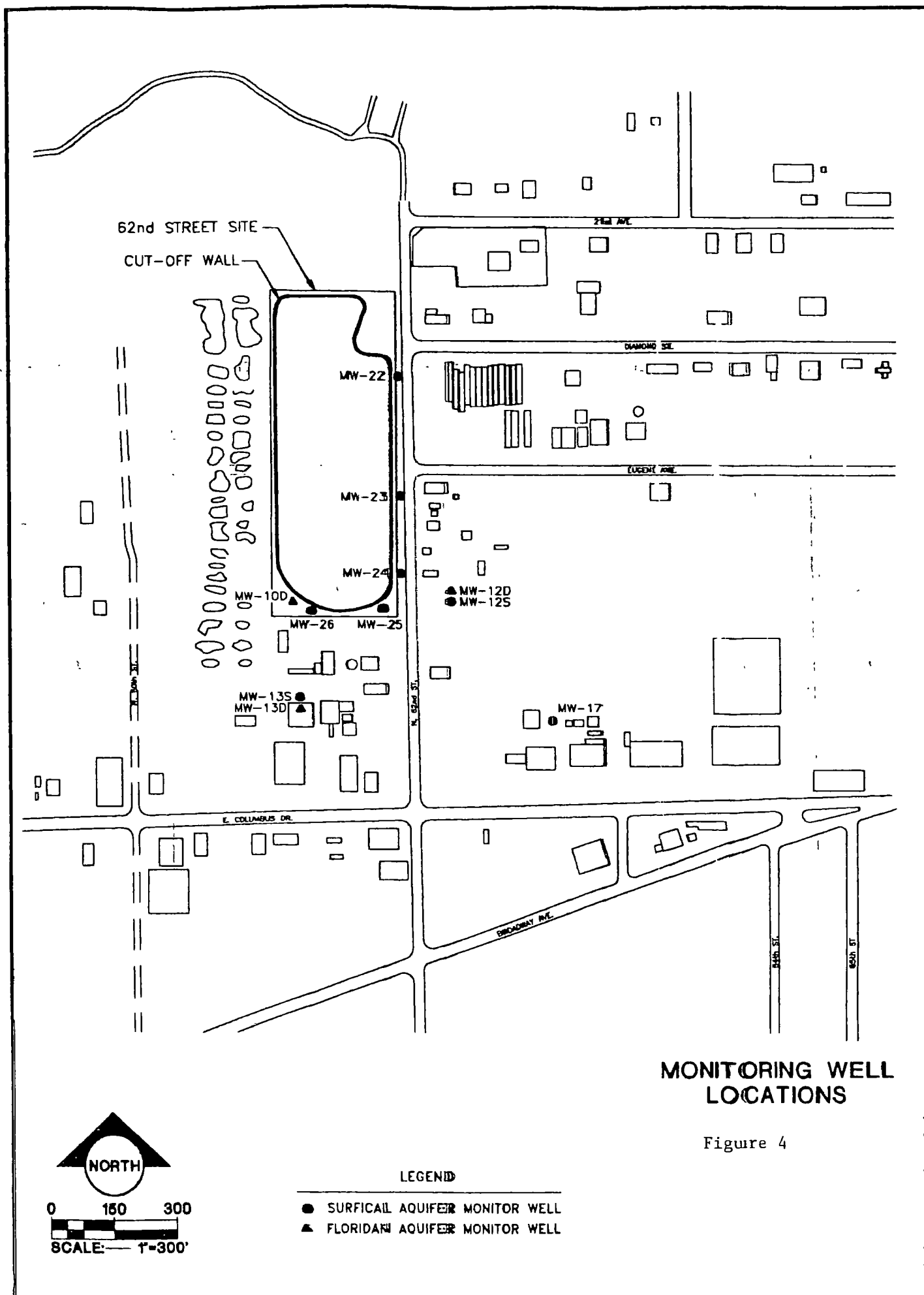
- | | |
|--|--|
| | UNDISTURBED AREA |
| | AREA WHERE NON-CEMENT WASTE EXISTED ABOVE CEMENT WASTE |
| | FORMER NON-CEMENT WASTE AREA |
| | FORMER CEMENT WASTE AREA (NOT EXCAVATED) |



- | | |
|--|---|
| | LIMITS OF EXCAVATION |
| | PROPERTY BOUNDARY |
| | CUT-OFF WALL AND LIMIT OF CAP |
| | 6' CHAIN LINK FENCE |
| | CLOSURE GRADES INDEX CONTOURS, FEET (NGVD) |
| | CLOSURE GRADES INTERMEDIATE CONTOURS, FEET (NGVD) |
| | MONITORING WELL |

SITE PLAN SHOWING
COMPLETED
REMEDIAL ACTION

Figure 3



Tables

Note: These tables were taken from the following documents:

Table 1 – Chronology of NPL Listing: Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc., March 30, 1999

Table 2 – Chronology of Remedy Development and Implementation: Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc., March 30, 1999

Table 3 – Chemical Specific ARARs: Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc., March 30, 1999

Table 4 – Results of Groundwater Sampling and Analyses for 1999: Annual Report for 1999, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc., January 20, 2000

Table 5 – Results of Groundwater Sampling and Analyses for 2000: Annual Report for 2000, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc., January 24, 2001

Table 6 – Results of Groundwater Sampling and Analyses for 2001: Annual Report for 2001, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc., January 15, 2002

Table 7 – Results of Groundwater Sampling and Analyses for 2002: Annual Report for 2002, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc., February 6, 2003

Table 8 – Results of Groundwater Sampling and Analyses for 2003: Annual Report for 2003, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc., January 27, 2004

Table 1

Chronology of NPL Listing

| Date | Event |
|----------|--|
| 11/30/76 | As a result of complaints of fish kills occurring in the fish breeding ponds located west of the 62nd Street Site, Hillsborough County Environmental Protection Commission (HCEPC) issued a notice to cease all disposal activities at the site. |
| 1982 | Periodic environmental sampling was conducted by HCEPC and FDER. One groundwater sample taken from the surficial aquifer showed total chromium concentrations exceeding the groundwater standard in Chapter 17-3, F.A.C. |
| 12/30/82 | Proposed NPL listing |
| 06/83 | A Remedial Action Master Plan (RAMP) for the site was prepared and a preliminary risk assessment was performed for EPA by NUS Corporation. The RAMP indicated no immediate concern over drinking water contamination, but recommended continued groundwater monitoring and the performance of a Feasibility Study (FS) to evaluate remediation alternatives. |
| 09/08/83 | Final NPL listing |

Table 2

Chronology of Remedy Development and Implementation

| Date | Event/Activity/Document/Milestone |
|-----------------------|--|
| 1984 | EPA and FDER entered into a Cooperative Agreement to jointly direct a Remedial Investigation/Feasibility Study (RI/FS) for the site |
| 1984/1986 | A Remedial Investigation (RI) was conducted for the site |
| 11/24/86 | Final Remedial Investigation Report, Fred C. Hart Associates, Inc. |
| 09/10/87 | Revised Final Remedial Investigation Report, Fred C. Hart Associates, Inc. |
| 1987 | Additional sampling of on-site monitoring wells was performed. |
| 1988 | A FS was conducted for the site. |
| 1989 | Additional sampling of nearby domestic wells was performed by the Florida Department of Health and Rehabilitative Services (HRS). |
| 1990 | RI/FS information was released to the general public. Public meetings were held followed by the preparation of a Responsiveness Summary. |
| 06/27/90 | Record of Decision EPA/ROD/R04-90-070 |
| 06/13/90 | A Scope of Work was prepared to guide development of a RD/RA program. |
| 04/91-05/91 | Unilateral Administrative Order (UAO) was issued in April and became effective in May. |
| 08/21/91 -08/23/91 | Consent Decree signed by PRPs |
| 09/20/91 | Explanation of Significant Differences to change cleanup criterion for lead in soils and to stipulate how construction and demolition debris would be disposed |
| 11/05/91 | Ardaman & Associates' Remedial Design Work Plan submitted to EPA. |
| 06/15/92 | The CD was entered by Court and the UAO was rescinded for those PRPs signing the CD. |
| 02/11/93 | Ardaman & Associates' Remedial Design Report submitted to EPA. |
| 09/93 | Remedial Action (RA) program began |
| 09/20/93 | Construction of soil-bentonite cut-off wall began |
| 09/25/93 | Construction of soil-bentonite cut-off wall completed [2,100 feet of cut-off wall] |
| 10/93 | Excavation and treatment of non-cement waste and contaminated soils began |
| 10/93- 07/94 | Treatment and disposal of on-site groundwater [2 Mgal consumed in S/S process; 4.5 Mgal to POTW] |
| 05/24/94 | Pre-Final Inspection by EPA RPM |
| 07/94 | Excavation and treatment of non-cement waste and contaminated soils completed [96,000 tons (61,800 CY) excavated] |
| 12/16/94 | Ardaman & Associates' Off-Site Groundwater Monitoring Program |
| 02/95 | Construction of top cover began |
| 05/95 | Completion of top cover [4.5 acres] |
| 05/04/95 | Ardaman & Associates' Operation & Maintenance Plan and Performance Monitoring Plan submitted to EPA. |
| 06/13/95 | Final Inspection by EPA Remedial Project Manager (RPM) |
| 06/29/95 | Record of Decision EPA/AMD/R04-95-231 deleted requirement to treat offsite groundwater |
| 07/13/95 | Ardaman & Associates' Remedial Action Report submitted to EPA. |
| 09/95 | EPA Approval of O&M and Performance Monitoring Plan |

Chemical Specific ARARs

| Groundwater | | | | | | | | |
|-----------------------------|----------------------|--------|------|--------------------------|----------------|--------------------|----------|--------------------------|
| Contaminant | ROD Dated 06-20-90 | | | | Current | | | |
| | Cleanup Level (µg/l) | Source | Date | Status | ARAR (µg/l) | Source | Date | Status |
| | 10 50 15 | SDWA | 1988 | relevant and appropriate | 5 100 15 | SDWA Amendments | 08-06-96 | relevant and appropriate |
| Cadmium Chromium Lead | | | | | | | | |

| Soil | | | | | | | | | |
|---|--------------------------|---------------------|----------------------------|----------------------------------|--------------|---|---------------------------------|---------------------|---------------|
| Contaminant | RA Cleanup Level (mg/kg) | | | Current EPA Generic SSLs (mg/kg) | | | Current SCTLs in 62-785, F.A.C. | | |
| | ROD Dated 06-20-90 | ESD Dated 09-20-91 | EPA Meeting Dated 10-30-92 | Ingestion | Inhalation | Migration to Groundwater 20 DAF (mg/kg) | Direct Exposure (mg/kg) | | |
| | | | | | | | Residential Use | Industrial Exposure | |
| Non-Cement Waste Cadmium Chromium Lead | 0.3 9 17 | TCLP TCLP 224 | 20 100 | 78 390 400 | 1,800 270 | 8 38 | 75 290 500 | 1,300 430 920 | 8 38 .. |
| Cement Waste Cadmium Chromium Lead | 3 90 170 | TCLP TCLP 224 | 20 100 | | | | | | |

Notes:

Notes.
ABARs - Applicable or Relevant and Appropriate Requirements

DAF - Dilution Attenuation Factor

ESN - Explanation of Significant Differences

ROD - Record of Decision

SSLs - Soil Screening Levels

SCTLS - Soil Cleanup Target Levels

SDWA - Safe Drinking Water Act

SPI P - Synthetic Precipitation Leaching Procedure

ICLP - Toxicity Characteristics Leaching Procedure

* CLP - Toxicity Characteristics Listing (RBCD)
* A - Arsenic level of 400 mg/kg has been set for lead based on Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (USEPA, 1994)

Leachability values may be derived using the SPLP test to calculate site-specific SCTLs

Table 4-1999

Results of Groundwater Sampling and Analyses

| Field Measurements and Laboratory Test Results | | | | | | | | | | | |
|--|----------------------------|---------------------------------|------------------|-----------------|---------------------------|-----------|--------------------------|-----------|-----------------------|-----------|--|
| Monitor Well Designation | Field pH (Units) | Specific Conductance (umhos/cm) | Temperature (°C) | Turbidity (NTU) | Chromium EPA 218.1 (ug/l) | | Cadmium EPA 213.1 (ug/l) | | Lead EPA 239.1 (ug/l) | | |
| | | | | | Total | Dissolved | Total | Dissolved | Total | Dissolved | |
| | | | | | | | | | | | |
| ● Surficial Aquifer Wells | | | | | | | | | | | |
| MW-12S | 6.4 | 1030 | 23.8 | 0.2 | 1 | 2 | 0.1 | 0.1 | <1 | <1 | |
| MW-13S | 6.4 | 1309 | 25.7 | 1.8 | 7 | 2 | 0.3 | 0.2 | <1 | <1 | |
| MW-17 | Not Available for Sampling | | | | | | | | | | |
| MW-22 | 6.6 | 717 | 24.8 | 0.9 | 2 | 2 | <0.1 | <0.1 | 4 | <1 | |
| MW-23 | 7.0 | 838 | 25.4 | 1.1 | 2 | 41 | <0.1 | <0.1 | <1* | 2* | |
| MW-24 | 7.2 | 884 | 25.0 | 0.5 | 5 | 2 | <0.1 | <0.1 | 1 | <1 | |
| MW-25 | 7.1 | 881 | 25.8 | 0.8 | 1 | 1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| MW-26 | 7.1 | 823 | 25.4 | 0.8 | 2 | <1 | <0.1 | <0.1 | 2 | <1 | |
| ● Floridan Aquifer Wells | | | | | | | | | | | |
| MW-10D | 6.7 | 2310 | 23.7 | 0.8 | 2 | 1 | <0.1 | <0.1 | <1 | <1 | |
| MW-12D | 7.1 | 2010 | 23.8 | 2.6 | <1 | <1 | 0.1* | 0.2* | <1* | 21* | |
| MW-13D | 6.9 | 729 | 24.6 | 3.3 | 3 | <1 | <0.1 | <0.1 | <1* | 3* | |
| ● Quality Control | | | | | | | | | | | |
| MW-27 (Equipment Blank) | - | - | - | - | <1 | <1 | <0.1 | <0.1 | 1 | 1 | |
| MW-28 (Duplicate of MW-24) | - | - | - | - | 1 | <1 | <0.1 | <0.1 | 2 | <1 | |
| MW-29 (Field Blank) | - | - | - | - | <1 | <1 | <0.1 | <0.1 | <1* | 3* | |

* Value was checked from the same preparation. There was insufficient sample for a new preparation.

Table 5-2000

Results of Groundwater Sampling and Analyses

| Monitor Well Designation | Field Measurements | | | | Laboratory Testing | | | | | |
|-----------------------------|----------------------------|---------------------------------|------------------|-----------------|---------------------------|-----------|--------------------------|-----------|-----------------------|-----------|
| | pH (Units) | Specific Conductance (umhos/cm) | Temperature (°C) | Turbidity (NTU) | Chromium (ug/l) EPA 218.1 | | Cadmium (ug/l) EPA 213.1 | | Lead (ug/l) EPA 239.1 | |
| | | | | | Total | Dissolved | Total | Dissolved | Total | Dissolved |
| ● Surficial Aquifer Wells | | | | | | | | | | |
| MW-12S | 7.0 | 875 | 23.9 | 2.89 | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-13S | 7.5 | 983 | 24.4 | 3.05 | 16 | 7 | 0.5 | 0.3 | <1 | <1 |
| MW-22 | 6.3 | 517 | 23.9 | 0.11 | 3 | 2 | <0.1 | <0.1 | <1 | <1 |
| MW-23 | 6.8 | 555 | 23.9 | 2.70 | 4 | 3 | <0.1 | <0.1 | 2 | <1 |
| MW-24 | 7.4 | 682 | 23.9 | 0.00 | <1 | <1 | <0.1 | <0.1 | <1 | 1 |
| MW-25 | 7.1 | 519 | 24.4 | 0.90 | 3 | 3 | <0.1 | <0.1 | <1 | <1 |
| MW-26 | 7.1 | 442 | 24.4 | 38.20 | 2 | 2 | <0.1 | 0.1 | <1 | <1 |
| ● Floridan Aquifer Wells | | | | | | | | | | |
| MW-10D | Not available for sampling | | | | | | | | | |
| MW-12D | 7.4 | 1881 | 23.3 | 3.88 | <1 | <1 | 0.1 | 0.1 | <1 | <1 |
| MW-13D | 7.5 | 581 | 24.4 | 0.39 | 2 | 12 | <0.1 | <0.1 | <1 | <1 |
| ● Quality Control | | | | | | | | | | |
| MW-27 (Equipment Blank) | - | - | - | - | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-28 (Duplicate of MW-24) | - | - | - | - | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-29 (Duplicate of MW-12S) | - | - | - | - | 2 | <1 | 0.1 | <0.1 | 1 | <1 |

Table 6-2001

Results of Groundwater Sampling and Analyses

| Monitor Well Designation | Field Measurements | | | | Laboratory Testing | | | | | |
|---|----------------------------|---------------------------------|------------------|-----------------|---------------------------|-----------|--------------------------|-----------|-----------------------|-----------|
| | pH (Units) | Specific Conductance (µmhos/cm) | Temperature (°C) | Turbidity (NTU) | Chromium (µg/l) EPA 218.2 | | Cadmium (µg/l) EPA 213.2 | | Lead (µg/l) EPA 239.2 | |
| | | | | | Total | Dissolved | Total | Dissolved | Total | Dissolved |
| | | | | | | | | | | |
| ● Surficial Aquifer Wells | | | | | | | | | | |
| MW-12S | 8.3 | 788 | 70 | 0.40 | <1 | <1 | <0.1 | <0.1 | 3 | 1 |
| MW-13S | 5.4 | 1680 | 69 | 0.00 | 5 | 4 | 2 | 1.5 | <1 | <1 |
| MW-22 | 9.1 | 585 | 72 | 0.00 | <1 | <1 | <0.1 | <0.1 | 6 | <1 |
| MW-23 | 9.1 | 510 | 71 | 2.14 | <1 | <1 | <0.1 | <0.1 | 2 | <1 |
| MW-24 | 6.3 | 612 | 69 | 3.52 | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-25 | 7.1 | 566 | 67 | 0.00 | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-26 | 7.7 | 384 | 67 | 1.64 | 1 | <1 | <0.1 | <0.1 | 2 | 3 |
| ● Floridan Aquifer Wells | | | | | | | | | | |
| MW-10D | Not available for sampling | | | | | | | | | |
| MW-12D | 8.3 | 1,957 | 70 | 0.00 | <1 | <1 | <0.1 | <0.1 | 2 | <1 |
| MW-13D | 6.5 | 605 | 66 | 3.44 | 2 | <1 | <0.1 | <0.1 | 1 | <1 |
| ● Quality Control | | | | | | | | | | |
| MW-27 (Equipment Blank) | - | - | - | - | <1 | <1 | <0.1 | <0.1 | 1 | <1 |
| MW-28 (Duplicate of MW-24) | - | - | - | - | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-29 (Duplicate of MW-12S) | - | - | - | - | <1 | <1 | <0.1 | <0.1 | 8 | <1 |
| Cleanup Standards in Record of Decision | - | - | - | - | ≤50* | ≤50* | ≤10* | ≤10* | ≤15 | ≤15 |

* The current groundwater standards for cadmium and chromium are 5 and 100 $\mu\text{g/l}$, respectively

Table 7-2002
Results of Groundwater Sampling and Analyses

| Monitor Well Designation | Field Measurements | | | Turbidity (NTU) | Laboratory Testing | | | | | |
|---------------------------|--------------------|---------------------------------|------------------|-----------------|--------------------|-----------|----------------|-----------|-------------|-----------|
| | pH (Units) | Specific Conductance (μmhos/cm) | Temperature (°F) | | Chromium (μg/l) | | Cadmium (μg/l) | | Lead (μg/l) | |
| | | | | | Total | Dissolved | Total | Dissolved | Total | Dissolved |
| ● Surficial Aquifer Wells | | | | | | | | | | |
| MW-138 | 4.1 | 1,460 | 74 | 0.0 | 2 | 2 | 0.4 | 0.4 | <1 | <1 |
| MW-22 | 6.0 | 620 | 72 | 0.0 | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-23 | 3.7 | 540 | 75 | 0.0 | <1 | <1 | <0.1 | <0.1 | <1 | 1 |
| MW-24 | 4.1 | 610 | 73 | 0.0 | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-25 | 3.7 | 460 | 72 | 0.0 | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| MW-26 | 3.8 | 400 | 73 | 14.9 | 1 | <1 | <0.1 | <0.1 | <1 | <1 |
| ● Floridan Aquifer Wells | | | | | | | | | | |
| MW-13D | 4.1 | 570 | 71 | 0.0 | 2 | <1 | <0.1 | <0.1 | <1 | <1 |
| ● Quality Control | | | | | | | | | | |
| Equipment Blank | - | - | - | - | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| Trip Blank | - | - | - | - | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| Duplicate of MW-24** | - | - | - | - | <1 | <1 | <0.1 | <0.1 | <1 | <1 |
| Duplicate of MW-25*** | - | - | - | - | 1 | <1 | <0.1 | <0.1 | <1 | <1 |
| Cleanup Standards* | - | - | - | - | ≤50 | ≤50 | ≤10 | ≤10 | ≤15 | ≤15 |

* Cleanup standards as established in the Record of Decision The current groundwater standards for cadmium and chromium are 5 and 100 μg/l, respectively.

** Sample designated as MW-28.

*** Sample designated as MW-28.

Table 8- 2003

Results of Groundwater Sampling and Analyses

| Monitor Well Designation | Field Measurements | | | | Laboratory Testing | | | | | |
|--------------------------|--------------------|---------------------------------|------------------|-----------------|---------------------------|-----------|--------------------------|-----------|-----------------------|-----------|
| | pH (Units) | Specific Conductance (µmhos/cm) | Temperature (°F) | Turbidity (NTU) | Chromium (µg/l) EPA 218.2 | | Cadmium (µg/l) EPA 213.2 | | Lead (µg/l) EPA 239.2 | |
| | | | | | Total | Dissolved | Total | Dissolved | Total | Dissolved |
| | | | | | | | | | | |
| Surficial Aquifer Wells | | | | | | | | | | |
| MW-12S | 6.5 | 864 | 75 | 0.0 | 4 | 2 | 0.2 | 0.1 | 1 | <1 |
| MW-13S | 7.6 | 807 | 76 | 1.1 | 4 | 5 | 0.3 | 0.3 | 6 | 3 |
| MW-22 | 8.0 | 470 | 76 | 0.0 | 1 | 2 | <0.1 | 0.1 | 1 | 3 |
| MW-23 | 8.0 | 825 | 75 | 0.0 | 5 | 4 | 0.2 | 0.2 | 2 | 2 |
| MW-24 | 8.3 | 547 | 74 | 0.0 | 2 | 3 | <0.1 | <0.1 | <1 | 1 |
| MW-25 | 8.3 | 431 | 76 | 0.0 | 8 | 2 | <0.1 | 0.1 | 2 | 3 |
| MW-26 | 8.4 | 319 | 76 | 0.0 | 3 | 1 | <0.1 | <0.1 | 1 | 1 |
| Floridan Aquifer Wells | | | | | | | | | | |
| MW-12D | 7.3 | 1501 | 75 | 0.0 | 3 | 1 | 0.1 | <0.1 | 2 | <1 |
| MW-13D | 7.8 | 126 | 76 | 0.0 | 49 | 2 | <0.1 | 0.2 | 2 | 3 |
| Quality Control | | | | | | | | | | |
| Equipment Blank* | - | - | - | - | 5 | 4 | 0.1 | <0.1 | 1 | <1 |
| Duplicate of MW-24** | - | - | - | - | 4 | 7 | <0.1 | <0.1 | 1 | <1 |
| Duplicate of MW-13D*** | - | - | - | - | 25 | 5 | 0.1 | <0.1 | 2 | 1 |
| Cleanup Standards**** | - | - | - | - | ≤50 | ≤50 | ≤10 | ≤10 | ≤15 | ≤15 |

* Sample designated as MW-27

** Sample designated as MW-28

*** Sample designated as MW-29

**** Cleanup standards as established in the Record of Decision The current groundwater standards for cadmium and chromium are 5 and 100 µg/l, respectively

Attachment A

Photographs of 62nd Street Superfund Site



Photo # 1- 62nd Street Site- Main entrance directly off 62nd Street



Photo # 2- 62nd Street Site- At main entrance (Facing east) off 62nd Street



Photo # 3- 62nd Street Site- Looking Northeast Corner at 2 groundwater monitoring wells
(Next to 62nd Street)



Photo # 4- 62nd Street Site- Close up of 2 groundwater monitoring wells plus a gopher tortoise borrow (Active)



Photo # 5- 62nd Street Site- Looking Southwest



Photo # 6- 62nd Street Site- Looking Southeast



Photo # 7- 62nd Street Site- Looking due south to adjoining property owners
(Notice perimeter fence has been cut)



Photo # 8- 62nd Street Site- Looking at a groundwater monitoring well (Facing east)
next to 62nd Street



Photo # 9- 62nd Street Site- Looking down 62nd Street (Facing south), dump site is on right



Photo # 10- 62nd Street Site- Perimeter fence with WARNING NO TRESPASSING sign

Attachment B

Site Inspection Checklist

Five-Year Review Site Inspection Checklist

√

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable")

| I. SITE INFORMATION | | | |
|---|--|----------------------------------|--|
| Site name: 62 nd Street Superfund Site | | Date of inspection: 05/07/04 | |
| Location and Region: Hillsborough County, FL R-4 | | EPA ID: FLD980728877 | |
| Agency, office, or company leading the five-year review: USACE, Jacksonville District | | Weather/temperature: Sunny, 85 F | |
| Remedy Includes (Check all that apply) <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input type="checkbox"/> Institutional controls <input checked="" type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other Solidification/stabilization of non-cement waste and contaminated soil, soil and bentonite cut-off wall, control of land use </div> <div style="width: 50%;"> <input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls </div> </div> | | | |
| Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input checked="" type="checkbox"/> Site map attached | | | |
| II. INTERVIEWS (Check all that apply) | | | |
| <div style="display: flex; justify-content: space-between;"> <div>1 O&M site manager <u>Mr Francis K Cheung, P E</u></div> <div>Senior Project Manager</div> <div>05/07/04</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div>Name</div> <div>Title</div> <div>Date</div> </div> <div style="margin-top: 5px;"> Interviewed <input checked="" type="checkbox"/> at site <input type="checkbox"/> at office <input checked="" type="checkbox"/> by phone Phone no <u>407-855-3860 ext 407</u> Problems, suggestions, <input type="checkbox"/> Report attached No major problems Mowing should be performed as needed Access needs to be better controlled _____ </div> | | | |
| <div style="display: flex; justify-content: space-between;"> <div>2 O&M staff _____</div> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div>Name</div> <div>Title</div> <div>Date</div> </div> <div style="margin-top: 5px;"> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no _____ Problems, suggestions, <input type="checkbox"/> Report attached _____ _____ </div> | | | |

| | | | | |
|---|--|-------|------|----------|
| 3 | Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply | | | |
| Agency _____ Contact _____ | | | | |
| | Name | Title | Date | Phone no |
| Problems, suggestions, ___ Report attached _____ | | | | |
| | | | | |
| Agency _____ Contact _____ | | | | |
| | Name | Title | Date | Phone no |
| Problems, suggestions, ___ Report attached _____ | | | | |
| | | | | |
| Agency _____ Contact _____ | | | | |
| | Name | Title | Date | Phone no |
| Problems, suggestions, ___ Report attached _____ | | | | |
| | | | | |
| Agency _____ Contact _____ | | | | |
| | Name | Title | Date | Phone no |
| Problems, suggestions, ___ Report attached _____ | | | | |
| | | | | |
| 4 | Other interviews (optional) <input checked="" type="checkbox"/> Report attached | | | |
| Donna M Kilber, Environmental Manager, Florida Rock Industries, Inc was interviewed on phone and at | | | | |
| the site on 5/7/04 | | | | |
| | | | | |
| Joseph A DeCicco, Staff Geologist, Ardaman & Associates, Inc was interviewed at the site on 5/7/04 | | | | |
| | | | | |
| Robert Steele, manager of Oakwood Wholesale Nursery was interviewed near the site on 5/7/04 | | | | |
| | | | | |
| | | | | |
| | | | | |

| III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply) | | | | |
|--|---|--|--|--|
| 1 | O&M Documents <input type="checkbox"/> O&M manual <input type="checkbox"/> As-built drawings <input type="checkbox"/> Maintenance logs Remarks _____ | <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A |
| 2 | Site-Specific Health and Safety Plan <input type="checkbox"/> Contingency plan/emergency response plan Remarks _____ | <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A <input type="checkbox"/> N/A |
| 3 | O&M and OSHA Training Records Remarks _____ | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| 4 | Permits and Service Agreements <input type="checkbox"/> Air discharge permit <input type="checkbox"/> Effluent discharge <input type="checkbox"/> Waste disposal, POTW <input type="checkbox"/> Other permits Remarks _____ | <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A |
| 5 | Gas Generation Records Remarks _____ | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| 6 | Settlement Monument Records Remarks _____ | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| 7 | Groundwater Monitoring Records Remarks _____ Annual monitoring reports submitted to EPA _____ | <input checked="" type="checkbox"/> Readily available | <input checked="" type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
| 8 | Leachate Extraction Records Remarks _____ | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| 9 | Discharge Compliance Records <input type="checkbox"/> Air <input type="checkbox"/> Water (effluent) Remarks _____ | <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A |
| 10. | Daily Access/Security Logs Remarks _____ | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |

| IV. O&M COSTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|------------|-------|--------------------|----------|-------|-------|--------------------|------|------|------------|--|--|------------|----------|-------|-------|--------------------|------|------|------------|--|--|------------|----------|-------|-------|--------------------|------|------|------------|--|--|------------|----------|-------|-------|--------------------|------|------|------------|--|--|------------|----------|-------|-------|--------------------|------|------|------------|--|--|
| 1 | O&M Organization <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> State in-house <input type="checkbox"/> PRP in-house <input type="checkbox"/> Federal Facility in-house <input checked="" type="checkbox"/> Other <u>Ardaman & Associates, Inc</u> </div> <div> <input type="checkbox"/> Contractor for State <input type="checkbox"/> Contractor for PRP <input type="checkbox"/> Contractor for Federal Facility </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | O&M Cost Records <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> Funding mechanism/agreement in place Original O&M cost estimate _____ Breakdown attached _____ <div style="text-align: center;">Total annual cost by year for review period if available</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">From _____</td> <td style="width: 10%;">To _____</td> <td style="width: 20%;">_____</td> <td style="width: 10%;">_____</td> <td style="width: 10%;">Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td>_____</td> <td>_____</td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td>_____</td> <td>_____</td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td>_____</td> <td>_____</td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> <td></td> </tr> <tr> <td>From _____</td> <td>To _____</td> <td>_____</td> <td>_____</td> <td>Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> <td></td> </tr> </table> | | | From _____ | To _____ | _____ | _____ | Breakdown attached | Date | Date | Total cost | | | From _____ | To _____ | _____ | _____ | Breakdown attached | Date | Date | Total cost | | | From _____ | To _____ | _____ | _____ | Breakdown attached | Date | Date | Total cost | | | From _____ | To _____ | _____ | _____ | Breakdown attached | Date | Date | Total cost | | | From _____ | To _____ | _____ | _____ | Breakdown attached | Date | Date | Total cost | | |
| From _____ | To _____ | _____ | _____ | Breakdown attached | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date | Date | Total cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| From _____ | To _____ | _____ | _____ | Breakdown attached | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date | Date | Total cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| From _____ | To _____ | _____ | _____ | Breakdown attached | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date | Date | Total cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| From _____ | To _____ | _____ | _____ | Breakdown attached | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date | Date | Total cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| From _____ | To _____ | _____ | _____ | Breakdown attached | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date | Date | Total cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Unanticipated or Unusually High O&M Costs During Review Period Describe costs and reasons _____ _____ _____ _____ _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V. ACCESS AND INSTITUTIONAL CONTROLS <input type="checkbox"/> Applicable <input type="checkbox"/> N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A. Fencing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Fencing damaged <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> <div style="text-align: right;">N/A</div> Remarks <u>South Gate was unlocked on the day of site visit Fencing is in good shape</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B. Other Access Restrictions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Signs and other security measures <input checked="" type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A Remarks _____ _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|---|--|--|--|
| C. Institutional Controls (ICs) | | | | |
| 1 | Implementation and enforcement Site conditions imply ICs not properly implemented ___ Yes ___ No <u>_X_</u> N/A Site conditions imply ICs not being fully enforced ___ Yes ___ No <u>_X_</u> N/A Type of monitoring (e g , self-reporting, drive by) _____ Frequency _____ Responsible party/agency _____ Contact _____ <div style="display: flex; justify-content: space-between; margin-top: 10px;"> Name Title Date Phone no </div> Reporting is up-to-date ___ Yes ___ No <u>_X_</u> N/A Reports are verified by the lead agency ___ Yes ___ No <u>_X_</u> N/A Specific requirements in deed or decision documents have been met ___ Yes ___ No <u>_X_</u> N/A Violations have been reported ___ Yes ___ No <u>_X_</u> N/A Other problems or suggestions ___ Report attached _____ _____ _____ | | | |
| 2 | Adequacy ___ ICs are adequate ___ ICs are inadequate ___ <u>X</u> ___ N/A Remarks _____ _____ _____ | | | |
| D. General | | | | |
| 1 | Vandalism/trespassing ___ Location shown on site map ___ No vandalism evident Remarks ___ Evidence (softballs) of trespassing found on site and reports of people on bikes riding on site ___ | | | |
| 2 | Land use changes on site ___ <u>X</u> ___ N/A Remarks _____ _____ | | | |
| 3 | Land use changes off site ___ <u>X</u> ___ N/A Remarks _____ _____ | | | |
| VI. GENERAL SITE CONDITIONS | | | | |
| A. Roads ___ Applicable ___ <u>X</u> ___ N/A | | | | |
| 1 | Roads damaged ___ Location shown on site map ___ Roads adequate ___ <u>X</u> ___ N/A Remarks _____ _____ | | | |

| | | | | | |
|---|---|---|-------------------------------------|-----------------------------------|-------------------|
| B. Other Site Conditions | | | | | |
| Remarks _____ _____ _____ _____ _____ | | | | | |
| VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A | | | | | |
| A. Landfill Surface | | | | | |
| 1 | Settlement (Low spots) Areal extent _____ Remarks _____ | _____ Location shown on site map Depth _____ | <input checked="" type="checkbox"/> | Settlement not evident | |
| 2 | Cracks Lengths _____ Remarks _____ | _____ Location shown on site map Widths _____ Depths _____ | <input checked="" type="checkbox"/> | Cracking not evident | |
| 3 | Erosion Areal extent _____ Remarks _____ | _____ Location shown on site map Depth _____ | <input checked="" type="checkbox"/> | Erosion not evident | |
| 4 | Holes Areal extent _____ Remarks _____ | _____ Location shown on site map Depth _____ | <input checked="" type="checkbox"/> | Holes not evident | |
| 5 | Vegetative Cover _____ Trees/Shrubs (indicate size and locations on a diagram) Remarks _____ | _____ Grass | <input checked="" type="checkbox"/> | Cover properly established stress | _____ No signs of |
| 6 | Alternative Cover (armored rock, concrete, etc.) Remarks _____ | | <input checked="" type="checkbox"/> | N/A | |
| 7 | Bulges Areal extent _____ Remarks _____ | _____ Location shown on site map Height _____ | <input checked="" type="checkbox"/> | Bulges not evident | |

| | | |
|--|--|--|
| 8 | Wet Areas/Water Damage | <input checked="" type="checkbox"/> Wet areas/water damage not evident |
| | <input type="checkbox"/> Wet areas | <input type="checkbox"/> Location shown on site map Areal extent _____ |
| | <input type="checkbox"/> Ponding | <input type="checkbox"/> Location shown on site map Areal extent _____ |
| | <input type="checkbox"/> Seeps | <input type="checkbox"/> Location shown on site map Areal extent _____ |
| | <input type="checkbox"/> Soft subgrade | <input type="checkbox"/> Location shown on site map Areal extent _____ |
| | Remarks _____ | |
| 9 | Slope Instability | <input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No evidence of slope instability |
| | Areal extent _____ | |
| | Remarks _____ | |
| B. Benches <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel) | | |
| 1 | Flows Bypass Bench | <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay |
| | Remarks _____ | |
| 2 | Bench Breached | <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay |
| | Remarks _____ | |
| 3 | Bench Overtopped | <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay |
| | Remarks _____ | |
| C. Letdown Channels <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies) | | |
| 1 | Settlement | <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No evidence of settlement |
| | Areal extent _____ | Depth _____ |
| | Remarks _____ | |
| 2 | Material Degradation | <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No evidence of degradation |
| | Material type _____ | Areal extent _____ |
| | Remarks _____ | |
| 3 | Erosion | <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No evidence of erosion |
| | Areal extent _____ | Depth _____ |
| | Remarks _____ | |

| | |
|--|---|
| 4 | Undercutting <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No evidence of undercutting Areal extent _____ Depth _____ Remarks _____ |
| 5 | Obstructions Type _____ <input checked="" type="checkbox"/> No obstructions <input type="checkbox"/> Location shown on site map Areal extent _____ Size _____ Remarks _____ |
| 6 | Excessive Vegetative Growth Type <u>grasses and bushes</u> <input type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> Location shown on site map Areal extent _____ Remarks <u>This growth is occurring outside of fenced property</u> |
| D. Cover Penetrations <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A | |
| 1 | Gas Vents <input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ |
| 2 | Gas Monitoring Probes <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ |
| 3 | Monitoring Wells (within surface area of landfill) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ |
| 4 | Leachate Extraction Wells <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ |
| 5 | Settlement Monuments <input type="checkbox"/> Located <input type="checkbox"/> Routinely surveyed <input checked="" type="checkbox"/> N/A Remarks _____ |

| | | |
|---|--|--|
| E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A | | |
| 1 | Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____ | |
| 2 | Gas Collection Wells, Manifolds and Piping <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____ | |
| 3 | Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____ | |
| F. Cover Drainage Layer <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A | | |
| 1 | Outlet Pipes Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____ | |
| 2 | Outlet Rock Inspected <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____ | |
| G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A | | |
| 1 | Siltation Areal extent _____ Depth _____ <input type="checkbox"/> N/A <input type="checkbox"/> Siltation not evident Remarks _____ _____ | |
| 2 | Erosion Areal extent _____ Depth _____ <input type="checkbox"/> Erosion not evident Remarks _____ _____ | |
| 3 | Outlet Works <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____ | |
| 4 | Dam <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____ | |

| | | | |
|---|---|--|---|
| H. Retaining Walls | | <input type="checkbox"/> Applicable | <input checked="" type="checkbox"/> N/A |
| 1 | Deformations <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Deformation not evident Horizontal displacement _____ Vertical displacement _____ Rotational displacement _____ Remarks _____ | | |
| 2 | Degradation <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Degradation not evident Remarks _____ | | |
| I. Perimeter Ditches/Off-Site Discharge | | <input checked="" type="checkbox"/> Applicable | <input type="checkbox"/> N/A |
| 1 | Siltation <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Siltation not evident Areal extent _____ Depth _____ Remarks _____ | | |
| 2 | Vegetative Growth <input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Vegetation does not impede flow Areal extent _____ Type _____ Remarks _____ | | |
| 3 | Erosion <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Erosion not evident Areal extent _____ Depth _____ Remarks _____ | | |
| 4 | Discharge Structure <input checked="" type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ | | |
| VIII. VERTICAL BARRIER WALLS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A | | | |
| 1 | Settlement <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Settlement not evident Areal extent _____ Depth _____ Remarks _____ | | |
| 2. | Performance Monitoring Type of monitoring _____ <input checked="" type="checkbox"/> Performance not monitored Frequency _____ Evidence of breaching _____ Head differential _____ Remarks _____ | | |

| | |
|---|--|
| IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A | |
| A. Groundwater Extraction Wells, Pumps, and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A | |
| 1 | Pumps, Wellhead Plumbing, and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____ _____ |
| 2 | Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____ |
| 3 | Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks _____ _____ |
| B. Surface Water Collection Structures, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A | |
| 1 | Collection Structures, Pumps, and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____ |
| 2 | Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____ |
| 3 | Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks _____ _____ |

| | | | |
|--|--|--|--|
| C. Treatment System <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A | | | |
| 1 | Treatment Train (Check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters <input type="checkbox"/> Additive (e g , chelation agent, flocculent) <input type="checkbox"/> Others <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually <input type="checkbox"/> Quantity of surface water treated annually Remarks | | |
| 2 | Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks | | |
| 3 | Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs Maintenance Remarks | | |
| 4 | Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks | | |
| 5 | Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks | | |
| 6 | Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks | | |
| D. Monitoring Data | | | |
| 1 | Monitoring Data <input checked="" type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality | | |
| 2 | Monitoring data suggests <input checked="" type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining | | |

| | | | |
|---|--|--|--|
| D. Monitored Natural Attenuation | | | |
| 1 | Monitoring Wells (natural attenuation remedy) <input checked="" type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____ | | |
| X. OTHER REMEDIES | | | |
| If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy An example would be soil vapor extraction | | | |
| XI. OVERALL OBSERVATIONS | | | |
| A. | Implementation of the Remedy | | |
| | Describe issues and observations relating to whether the remedy is effective and functioning as designed Begin with a brief statement of what the remedy is to accomplish (i e , to contain contaminant plume, minimize infiltration and gas emission, etc) <input type="checkbox"/> The remedy is intended to reduce infiltration into solidified/stabilized (S/S) waste and contaminated soils by a low permeability top cover and contain groundwater in contact with the waste and soils within a slurry wall The remedy appears to be effective and to be functioning as designed. _____ _____ _____ _____ _____ _____ _____ _____ _____ | | |
| B. | Adequacy of O&M | | |

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

All monitoring wells are intact and accessible. Mowing frequency should be as needed to prevent excessive buildup of clippings. Tall grass and weeds along the fence on both sides should be trimmed. Security needs to be increased to prevent unauthorized access, although no substantial damage was observed.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

No indicators of potential remedy failure were observed during the site visit.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Other than restricting access to the site and potential contact with the waste, the remedy which has been completed requires very little maintenance and has minimal operating costs.

Attachment C

Documents Reviewed

Reports and Memorandums

- Remedial Investigation Report, Fred C. Hart Associates, Inc (Nov 24, 1986)
- Remedial Investigation/ Feasibility Study at the 62nd Street Superfund Site, Fred C Hart Associates, Inc (May 9, 1990)
- Record of Decision Summary of Remedial Alternative Selection, U.S Environmental Protection Agency Region IV (June 27, 1990)
- Remedial Action Report for the 62nd Street Superfund Site, Ardaman & Associates, Inc. (July 13, 1995)
- Operations & Maintenance and Performance Monitoring Plan for 62nd Street Superfund Site, Ardaman & Associates, Inc (September 10, 1995)
- Five-Year Review Report, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc , March 30, 1999
- Annual Report for 1999, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc , January 20, 2000
- Annual Report for 2000, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc., January 24, 2001
- Annual Report for 2001, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc., January 15, 2002
- Annual Report for 2002, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Site, Tampa, Florida, prepared by Ardaman & Associates, Inc., February 6, 2003
- Annual Report for 2003, Performance Monitoring Data and Operation and Maintenance Activities, 62nd Street Superfund Site, Hillsborough County, Florida, prepared by Ardaman & Associates, Inc., January 27, 2004